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sky was quite clear and the air steady. An assistant called the seconds aloud from the mean-time chronometer Fletcher 1050. For the reappearances the bar was set to the position-angle and placed tangent to the Moon's limb a few seconds of arc off the limb. In spite of this precaution several reappearances were observed for which I could not be certain that I caught the exact emersion. The following are the only times for which I was sure of the phase:—

Star.	Green. M.T.	Phase.
	h m s	
63	9 2 7·0	Disap.
81	9 33 40·6	,,
69	9 39 35·1	Reap.
74	9 50 14·1	,,
94	10 6 54·1	Disap.
109	10 37 25·6	,,

The time was determined, with a small transit instrument lent to me by Mr. Latimer Clark, by observing high and low stars with reversed positions of the axis.

1884.	G.M.T.	Fletcher 1050 fast on G.M.T.	
	h m	s	
Sept. 30	9 57	27·3	1 star only
Oct. 3	9 38	23·76	8 stars
11	9 53	9·07	4 ,,

In the middle of the eclipse the chronometric correction has been taken —22^{s}·4. The Greenwich mean time has been obtained by allowing the Geodetic Longitude 1^{m} 20^{s}·0 West, taken from the 6-inch ordnance survey.

The total light reflected from the Moon was compared directly with the stars as follows:—

	h m		
At	9 45	G.M.T. equal to	2½ magnitude.
	10 8	,,	3 ,,
	10 30	,,	2 ,,
	10 44	,,	Capella

The very slight ruddy tint during totality was not perceptible until a direct comparison with white stars was made.

The Total Eclipse of the Moon, 1884, *October* 4. By W. F. Denning.

A perfectly cloudless sky enabled the total lunar eclipse of October 4 to be well observed from this city.

The most noteworthy feature in connection with the phenomenon was that the Moon, at the total phase, appeared far less

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luminous than usual. During the preceding eclipses of 1870, July 12, 1877, February 27 and August 23, all of which I observed, our satellite seemed considerably brighter than on the present occasion, and the colouring was more striking. The remarkable opacity of the shadow became evident when it had well encroached upon the Moon's eastern limb, and the fact was fully confirmed by the aspect of her disc during the subsequent stages of the eclipse.

The firmament grew as dark as on an ordinary night when the moon is entirely absent, and but for the indistinct outline of our satellite projected upon the dark background of the sky, there was nothing abnormal in the appearance of the heavens. Small stars could be distinguished with the customary readiness, and the Moon herself, high in the southern sky, looked like a large, ill-defined nebula with indeterminate outlines, or like a planet struggling feebly through very thick haze. Applying my 10-in. Reflector, power 60, her sharply circular contour, however, still admitted of satisfactory observation, and many leading features of the surface were recognised amid the prevailing gloom in which her landscape was involved.

As the Moon emerged from the umbra I believe the depth of the shading was perceptibly less intense than during the immersion. The blue tint so often observed in previous eclipses was distinctly present near the borders of the shadow, while in the more interior region the colouring developed into a dark reddish-brown; but the effect of the different hues and their variations during the progress of this eclipse were far less notable (owing to the extreme darkness of the umbra) than during the similar phenomena of 1870 and 1877 as I remember them.

I took advantage of the dark sky during the Moon's obscuration to examine the comet discovered by Wolf at Heidelberg on September 17. Its position was some 12° E. of the cluster of bright stars in the head of *Delphinus*; the comet was seen as a round nebulosity about 3′ diameter, and with a bright stellar nucleus.

Bristol:
1884, *Oct.* 8.

Abnormal Obscurity of the Moon in the late Eclipse. By the Rev. S. J. Johnson, M.A.

On the evening of October 4 there was a conspicuous return of the sunset after-glow that was common last winter. A peculiar state of the strata of our atmosphere might, therefore, indicate that something unusual was to be expected in the eclipse following.

At 8^h, penumbra barely perceptible with opera-glass.

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